Appl. No. 10/083,093

Submission in connection with RCE

Page 2 of 15

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the

application:

1. (Currently amended) An implantable prosthesis, comprising:

(a) a prosthetic component having first and second surfaces, wherein the second

surface is oriented toward a bone in which the component is to be implanted;

(b) at least one opening extending from the first surface to the second surface; the

opening comprising (i) an extended nonthreaded frustoconical taper section extending

through a substantial portion of the opening and (ii) a rounded section beginning at a narrow

end of the frustoconical taper section and having a smaller diameter than the frustoconical

taper section, wherein the opening accommodates an insertion member at multiple

orientations relative to the component; and

(c) an insertion member having a head which includes a rounded,

nonfrustoconical contact surface that contacts said frustoconical taper section of said opening

when the insertion member is inserted into the opening;

whereby the insertion member fits in the opening in a substantially fluid tight

4048726778

02/03/5002 13:34

relationship and contacts the frustoconical taper section when locked relative to the

frustonical taper at a plurality of angular orientations between the insertion member and the

opening, and the head of the insertion member does not protrude beyond the first surface.

PAGE 5/18 \* RCVD AT 5/9/2006 2:36:36 PM [Eastern Daylight Time] \* 5VR:USPTO-EFXRF-2/10 \* DNIS:2738300 \* CSID:4048156/18 \* DURATION (mm-55):04-48

Appl. No. 10/083,093

Submission in connection with RCE

Page 3 of 15

2. (Previously Presented) The implantable prosthesis of claim 1, wherein once the

appropriate orientation of the insertion member is selected, the insertion member locks

relative to the frustoconical taper section.

3. (Previously Presented) The implantable prosthesis of claim 1, wherein the rounded

section is a curved surface, a rounded surface, or a spherical surface.

4. (Previously Presented) The implantable prosthesis of claim 1, wherein the head of the

insertion member comprises an outer edge that is spherical, near-spherical, toroidal,

elliptical, global, slightly curved, or rounded.

5. (Original) The implantable prosthesis of claim 1, wherein the insertion member

comprises one or more of a bone screw, a bone peg, a bone spike, or an aperture cover.

6. (Previously Presented) The implantable prosthesis of claim 1, wherein the contact

surface of the insertion member head is part of a sphere.

7. (Previously Presented) The implantable prosthesis of claim 1, wherein the opening

has an inner wall, the head has an outer rim, and wherein the insertion member maintains a

constant point of contact between the inner wall and the outer rim when the insertion

member is inserted into the opening at an angle.

PACE 6/18 \* RCVD AT 5/9/2006 2:36:36 PM [Eastern Daylight Time] \* SVR: USPTO-EFXRF-2/10 \* DNIS:2738300 \* CSID: 4048156118 \* DURATION (mm-55):04-48

Appl. No. 10/083,093

Submission in connection with RCE

Page 4 of 15

8. (Original) The implantable prosthesis of claim 1, wherein the prosthesis comprises a

hip replacement system and wherein the first and second surfaces are surfaces of an

acetabular cup.

9. (Canceled)

10. (Previously Presented) The implantable prosthesis of claim 1, wherein the opening is

a universal-type opening and wherein the insertion member comprises any one of bone

screw, a bone peg, a bone spike, or an aperture cover, wherein any one of the bone screw, a

bone peg, a bone spike, or an aperture cover comprises a universal-type contact surface that

corresponds to the universal-type opening.

11.-12.(Canceled)

13. (Currently amended) An acetabular implant for fixation to a patient, comprising:

(a) an acetabular cup having an inner surface, an outer surface, and at least one

opening extending from the inner surface to the outer surface, wherein the outer surface is

oriented toward a bone in which the component is to be implanted;

(b) the at least one opening having an extended nonthreaded frustoconical tapered

02/03/5002 13:34

4048122118

section that extends through a substantial portion of the opening; and

PAGE 7/18 \* RCVD AT 5/9/2006 2:36:36 PM [Eastern Daylight Time] \* 5VR:USPTO-EFXRF-2/10 \* DNIS:2738300 \* CSID:4048156/18 \* DURATION (mm-ss):04-48

Appl. No. 10/083,093

Submission in connection with RCE

Page 5 of 15

(c) an insertion member for insertion into the opening, the member comprising a

head which includes a rounded, nonfrustoconical contact surface that contacts said

frustoconical tapered section of said opening;

wherein the at least one opening accommodates more than one type of insertion

member, and

whereby the insertion member fits in the opening in a substantially fluid tight

relationship and contacts the frustoconical taper section when locked relative to the

frustonical taper at a plurality of angular orientations between the insertion member and the

opening, and the head of the insertion member does not protrude beyond the inner surface of

the cup.

14. (Previously Presented) The acetabular implant of claim 13, wherein once the

appropriate orientation of the insertion member is selected, the insertion member locks

relative to the frustoconical taper section.

15. (Previously Presented) The acetabular implant of claim 13, wherein the head

comprises an outer edge that is spherical, near-spherical, toroidal, elliptical, global, slightly

curved, or rounded.

16. (Previously Presented) The acetabular implant of claim 13, wherein the opening has

an inner wall, the head has an outer rim, and wherein the insertion member maintains a

PAGE 8/18 \* RCVD AT 5/9/2006 2:36:36 PM [Eastern Daylight Time] \* SVR: USPTO-EFXRF-2/10 \* DNIS:2738300 \* CSID: 4048156/18 \* DURATION (mm-55):04-48

Appl. No. 10/083,093

Submission in connection with RCE

Page 6 of 15

constant point of contact between the inner wall and the outer rim when the insertion

member is inserted into the opening at an angle.

17. (Previously Presented) The acetabular implant of claim 13 further comprising a

femoral stem and a cup liner.

18. (Original) The acetabular implant of claim 13, wherein the insertion member

comprises a bone screw, a bone peg, a bone spike, or an opening cover.

19.-24.(Canceled)

25. (Currently amended) An acetabular implant for fixation to a patient, comprising:

(a) an acetabular cup having an inner surface, an outer surface, and at least one

opening extending from the inner surface to the outer surface,

(b) the at least one opening having an extended nonthreaded frustoconical tapered

section extending though a substantial portion of the opening and a rounded section

beginning at a narrow end of the frustoconical taper section and having a diameter smaller

than the diameter of the opening at the inner surface;

(c) an insertion member for insertion into the opening, the insertion member

comprising a head, which includes a rounded, nonfrustoconical contact surface that contacts

said frustoconical tapered section of said opening when the insertion member is inserted into

the opening;

PACE 9/18 \* RCVD AT 5/9/2006 2:36:36 PM [Eastern Daylight Time] \* SVR: USPTO-EFXRF-2/10 \* DN/5:2738300 \* CSID: 4048156118 \* DURATION (mm-ss): 04-48

Appl. No. 10/083,093

Submission in connection with RCE

Page 7 of 15

wherein the at least one opening accommodates more than one type of insertion

member; and

whereby the insertion member fits in the opening in a substantially fluid tight

relationship and contacts the frustoconical taper section when locked relative to the

frustonical taper at a plurality of angular orientations between the insertion member and the

opening, so that the head of the insertion member does not protrude beyond the inner surface

of the cup.

26. (Previously Presented) The acetabular cup of claim 25, further comprising:

(d) a liner for lining the inner surface of the acetabular cup; and

(e) a fernoral component for insertion into a patient's femur that cooperates with

the acetabular cup and liner.

27. (Currently amended) A method of replacing at least part of a hip joint in a patient,

comprising:

(a) providing an acetabular implant for fixation to a patient, comprising:

(1) an acetabular cup having an inner surface, an outer surface, and at least

one opening extending from the inner surface to the outer surface;

(2) the at least one opening having an extended nonthreaded frustoconical

tapered section extending through a substantial portion of the opening and a rounded section

beginning at a narrow end of the frustoconical taper section and having a diameter smaller

than the diameter of the opening at the inner surface;

PAGE 10/18 \* RCVD AT 5/9/2006 2:36:36 PM [Eastern Daylight Time] \* SVR: USPTO-EFXRF-2/10 \* DNIS:2738300 \* CSID:4048156118 \* DURATION (mm-ss):04-48

Appl. No. 10/083,093

Submission in connection with RCB

Page 8 of 15

(3) an insertion member for insertion into the opening, the insertion

member comprising a head which includes a rounded, nonfrustoconical contact surface that

contacts said frustoconical tapered section of said opening when the insertion member is

inserted into the opening;

wherein the at least one opening accommodates more than one type of insertion

member; and

whereby the insertion member fits in the opening in a substantially fluid tight

relationship and contacts the frustoconical taper section when locked relative to the

frustoconical taper at a plurality of angular orientations between the insertion member and

the opening, and the head of the insertion member does not protrude beyond the inner surface

of the cup;

(b) preparing the bone of the patient's hip to receive the acetabular implant; and

(c) implanting the acetabular implant.

28. (Canceled)

29. (Original) The method of claim 27, further comprising providing an acetabular cup

liner and positioning the acetabular cup liner in the acetabular cup.

30. (Previously Presented) The method of claim 27, further comprising providing a

femoral prosthesis and positioning the femoral prosthesis in a patient's femur, such that the

femoral prosthesis can cooperate with the acetabular implant.

PAGE 11/18 \* RCVD AT 5/9/2006 2:36:36 PM [Eastern Daylight Time] \* SVR:USPTO-EFXRF-2/10 \* DNIS:2738300 \* CSID:4048156118 \* DURATION (mm-ss):04-48

Appl. No. 10/083,093

Submission in connection with RCE

Page 9 of 15

31. (Previously Presented) The method of claim 27, wherein once the appropriate

orientation of the insertion member is selected, the insertion member locks relative to the

frustoconical taper section such that the head of the insertion member does not protrude

beyond the first surface.

32. (Previously Presented) The method of claim 27, wherein the rounded section is a

curved surface, a rounded surface, or a spherical surface.

33. (Previously Presented) The method of claim 27, wherein the head comprises an outer

edge that is spherical, near-spherical, toroidal, elliptical, global, slightly curved, or rounded.

34. (Original) The method of claim 27, wherein the insertion member comprises one or

more of a bone screw, a bone peg, a bone spike, or an aperture cover.

35. (Previously Presented) The method of claim 27, wherein the contact surface of the

insertion member head comprises part of a sphere.

36. (Previously Presented) The method of claim 27, wherein the opening has an inner

wall, the head has an outer rim, and wherein the insertion member is inserted into the

opening at an angle while maintaining a constant point contact between the inner wall and

the outer rim.

PAGE 12/18 \* RCVD AT 5/9/2006 2:36:36 PM [Eastern Daylight Time] \* SVR: USPTO-EFXRF-2/10 \* DNIS:2738300 \* CSID:4048156118 \* DURATION (mm-ss):04-48

Appl. No. 10/083,093

Submission in connection with RCE

Page 10 of 15

37. (Previously Presented) The method of claim 27, wherein the interface between the

contact surface of the head and the extended taper section comprises a liquid-tight seal.

38. (Previously Presented) The method of claim 27, wherein the opening is a universal-

type opening and wherein the insertion member comprises any one of bone screw, a bone

peg, a bone spike, or an aperture cover, wherein any one of the bone screw, a bone peg, a

bone spike, or an aperture cover comprises a universal-type head that corresponds to the

universal-type opening.

39. (New) An implantable prosthesis, comprising:

(a) a prosthetic component having first and second surfaces, wherein the second

surface is oriented toward a bone in which the component is to be implanted;

(b) at least one opening extending from the first surface to the second surface; the

opening comprising (i) an extended nonthreaded frustoconical taper section extending

through a substantial portion of the opening and (ii) a rounded section beginning at a narrow

end of the frustoconical taper section and having a smaller diameter than the frustoconical

taper section, wherein the opening accommodates an insertion member at multiple

orientations relative to the component; and

(c) an insertion member having a head which includes a rounded,

nonfrustoconical contact surface that contacts said frustoconical taper section of said opening

when the insertion member is inserted into the opening;

PAGE 13/18 \* RCVD AT 5/9/2006 2:36:36 PM [Eastern Daylight Time] \* SVR: USPTO-EFXRF-2/10 \* DNIS:2738300 \* CSID: 4048156118 \* DURATION (mm-ss): 04-48

Appl. No. 10/083,093

Submission in connection with RCE

Page 11 of 15

whereby the insertion member fits in the opening in a mechanically locked relationship and contacts the frustoconical taper section when locked relative to the frustonical taper at a plurality of angular orientations between the insertion member and the opening, and the head of the insertion member does not protrude beyond the first surface.